

## Mainboard Diagram

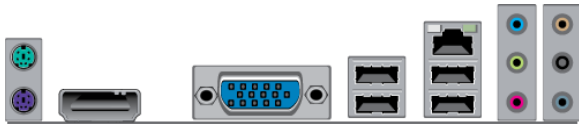


### PN78SM3-HL

1. NVIDIA MCP78S Chipset
2. Supports Socket AM2+ Phenom™ FX processors
3. Support HT 3.0
4. Special 4+1 PWM Design
5. Integrated NVIDIA GeForce 8200 graphics processor (For Microsoft DX10.0)
6. Support Hybrid SLI
7. Support Dual Channel DDR2 1066/800
8. Integrated Serial ATA2 3Gb/s connectors with RAID function
9. Integrated PCI Express Gigabit LAN
10. Integrated ALC883 HD Audio Codec with 8.0 CH
11. Supports HDMI
12. Support Blu-ray/Full HD DVD playback
13. CPU Vcore 7-Shift
14. Ready for Windows® Vista™
15. Micro ATX Form Factor

(IN/OUT solid capacitors)

ROHS



## Features and Benefits

### AMD Phenom™ Quad-Core Processors with True Quad-Core Technology

Realize new possibilities for connecting with friends, family, and digital entertainment with the phenomenal performance of the AMD Phenom™ 9000 series quad-core processor. Built from the ground up for true quad-core performance, AMD Phenom™ processors speed through advanced multitasking, critical business productivity, advanced visual design and modeling, serious gaming, and visually stunning digital media and entertainment.

### NVIDIA MCP78S(GeForce8200) Chipset: Backbone of the Performance Platform

The NVIDIA GeForce 8200 motherboard GPU brings new graphics technologies to everyone. Enjoy Windows Vista and today's popular games with DirectX 10. Watch the latest Blu-ray and HD DVD titles with NVIDIA® PureVideo® HD technology. And turbo-charge your GeForce GPUs with GeForce Boost for amazing graphics performance. All at an exceptional value.

### Hyper Transport Technology 3.0

The highly scalable Hyper Transport 3.0 is capable of providing incredible bandwidth of the system bus up to 20.8GB/s which would dramatically elevate the efficiency of computing performance.

### NVIDIA Hybrid SLI Technology

Hybrid SLI™ technology is a unique hybrid multi-GPU technology built upon NVIDIA. Hybrid SLI technology today includes two primary features: GeForce Boost and HybridPower™. GeForce Boost turbo-charges performance of NVIDIA discrete graphics cards when combined with this series motherboard GPUs. HybridPower™ unleashes graphics performance when needed and enables low-power operation when performance is not needed. You can switch from the discrete GeForce GPU(s) to the motherboard GPU for a quiet, low power PC experience.

### PCI Express 2.0 Buses

The PCI Express 2.0 x16 graphics delivers up to 8 GB/s per direction, 2 times more bandwidth than PCI Express x16 and up to 16 GB/s

concurrent bandwidth. PCI Express x1 I/O offers 1GB/s concurrently, over 7 times more bandwidth than AGP8X, tackling the most demanding multimedia tasks nowadays

### **Serial ATA II 3Gb/s&RAID**

This platform supports reliable storage solution for enhanced data protection and data accessing performance. Serial ATA 3Gb/s is firstly introduced in this platform to provide blazingly 3Gb/s bus bandwidth thus higher disk performance. The SATA RAID allows multi-disk designs to be set up as RAID 0, 1,10 based on users' priority of protection/performance, and which even makes more accessible by introducing the innovative windows-based facility

### **PCI-Express Gigabit LAN**

Delivers transfer speed ten times faster than conventional 10/ 100 Ethernet connections, supporting a high transfer rate up to Gigabit/s.

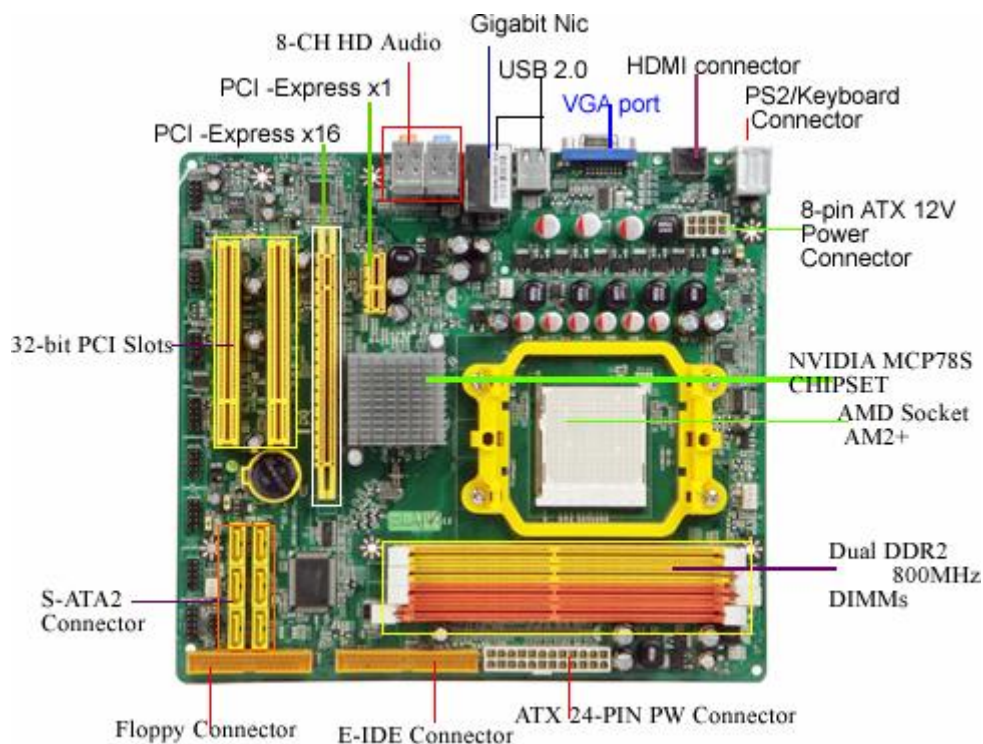
Gigabit LAN is the networking standards for the future and is ideal for handing large amount of data such as video, audio, and voice

### **OC-CON high-polymer solid electrolysis aluminum capacitors embedded**

The working temperature is from 55 degrees Centigrade below zero to 125 degrees Centigrade, OC\_CON capacitors possess superior physical characteristics that can be while reducing the working temperature between 20 degrees Centigrade each time, intact extension 10 times of effective product operation lives, at not rising degrees Centigrade of working temperatures each time a relative one, life of product decline 10% only too.

### **CPU Vcore 7-Shift / Shift to the scalabilities and flexibilities**

The adjustable voltage for CPU Vcore can be upgraded in 31 stages for the precisely hardware dynamic over-clocking of demanding computing performance.



## Mainboard Specifications

<ul style="list-style-type: none"> <li>■ <b>CPU</b></li> </ul>	<p><b>Supports AMD Socket AM2+/AM2:</b></p> <ul style="list-style-type: none"> <li>■ AMD Phenom FX/Phenom processors</li> <li>■ Athlon 64 X2 / Athlon 64 FX / Athlon 64 / Sempron processors</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Chipset</b></li> </ul>	<ul style="list-style-type: none"> <li>■ NVIDIA MCP78S Chipset</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Hyper Transport</b></li> </ul>	<ul style="list-style-type: none"> <li>■ HT 3.0</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Memory</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Dual Channel DDR2 memory technology</li> <li>■ 4 * 240-pin DDR2 DIMM slots</li> <li>■ Supports DDR2 1066/800 non-ECC ,un-buffered memory</li> <li>■ Max.8GB</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Expansion Slots</b></li> </ul>	<ul style="list-style-type: none"> <li>■ 2 * 32-bit PCI slots</li> <li>■ 1 * PCI Express 2.0 x16 slot@16-lane</li> <li>■ 1 * PCI Express x1 slot</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Storage</b></li> </ul>	<p><b>Embedded NVIDIA MCP78S Chipset :</b></p> <ul style="list-style-type: none"> <li>■ 6 * Serial ATA2 3Gb/s connectors</li> <li>■ Supports HDDs with RAID 0,1,0+1,5,JBOD functions</li> <li>■ 1 * Ultra DMA 133 / 100 / 66 IDE connector</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Audio</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Realtek ALC883 8-Channel HD Audio CODEC</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Ethernet LAN</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Realtek RTL8211B PCI Express Gigabit NIC</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>USB</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Embedded 10 * USB 2.0/1.1</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Special Features</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Advanced Power Design that supports the latest Socket-AM2 + K10 CPU</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Rear Panel I / O</b></li> </ul>	<ul style="list-style-type: none"> <li>■ 4 * USB 2.0/1.1 ports</li> <li>■ 1 * PS/2 mouse port</li> <li>■ 1 * PS/2 keyboard port</li> <li>■ 1 * VGA port</li> <li>■ 1 * HDMI port</li> <li>■ 1 * RJ-45 port</li> <li>■ 1 * Audio I/O port</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Internal I / O</b></li> </ul>	<ul style="list-style-type: none"> <li>■ 3 * USB 2.0/1.1 headers for 6 USB 2.0/1.1 ports</li> <li>■ CPU / Chassis Fan connectors</li> <li>■ 1 * 8-pin ATX 12V Power connector</li> <li>■ 1 * 24-pin ATX Power connector</li> <li>■ 1 * Serial Port of 9-pin block</li> <li>■ CD / AUX Audio in</li> <li>■ 1 * Ultra DMA 133/100/66 IDE connector</li> <li>■ 1 * Floppy connector</li> <li>■ Front panel audio connector</li> <li>■ 1 * SPDIF header</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>BIOS</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Award 8MB SPI Flash ROM</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Form Factor</b></li> </ul>	<ul style="list-style-type: none"> <li>■ Micro ATX Form Factor</li> </ul>